

## ABSTRACT OF THE INVENTION

An apparatus and method is provided for determining the minority carrier diffusion length from the back side of the wafer within predetermined areas using pattern  
5 recognition system. In particular embodiments SPV probe includes transparent and non-transparent electrodes, to provide measurement of SPV and in area larger than optical beam and to provide accurate determination of diffusion length with spatial resolution <1mm. The apparatus includes the ability to measure diffusion length from the areas under special areas within scribe line of patterned wafer. This apparatus and method  
10 provides a determination of the diffusion length to control metal contamination in product including patterned wafers including measurement within scribe lines and full wafer fast mapping.